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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,532	01/18/2002	Michael J. Graziano	56162.000353	7747

7590

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EXAMINER

TSE, YOUNG TOI

ART UNIT	PAPER NUMBER
2637	.

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/050,532

Applicant(s)

GRAZIANO ET AL.

Examiner

YOUNG T. TSE

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-45 is/are rejected.
- 7) ☒ Claim(s) 23 and 46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 053002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because Figure 1a does not show the connection or the relationship among the block elements 110, 112, 114 and 116 or the probe signals. In Figure 1b, block 128, "STUR" should be labeled "STUC". In Figure 1c, block 170, "STUC" should be labeled "STUR". In Figures 8 and 9, two figures are labeled together. Applicants are requested to label the figures separately, one for each figure. Also to correct the label of Figures 10 and 11 and also 21 and 22. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to because of the following informalities: on page 2, line 4 and page 23, line 3, "G.SHDSL" and "PAM" are undefined; in the brief description of the drawings from page 7 to page 9, the Applicants are requested to clarify how many aspects of the present invention are disclosed and they need to be specified in numerical order; and on page 23, lines 5 and 6, the Applicant are requested to clarify the symbols for the required margin in dB and the implementation loss in dB. For the formality of the application under the present office practice, applicant(s) is required to replace "Claims" with "I or We Claim", "The Invention Claimed Is" (or the equivalent) before the Claims part of the specification of the instant application. See MPEP 608.01(m). Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

3. Claims 7-8, 10, 17, 22, 27, 30-31, 33, 40, and 45 are objected to because of the following informalities:

In claim 7, lines 2 and 3, "wherein noise data" and "wherein loop data" should be "wherein the noise data" and "wherein the loop data", respectively.

In claim 8, line 3, "a first modem" should be "the first modem.

In claim 10, line 3, "a first modem and a" should be "the first modem and the".

In claim 17, line 1, "claim 14" should be "claim 16".

In claim 22, line 2, "a transmitted power for a" should be "the transmitted power for the".

In claim 27, lines 1 and 4, "wherein further" and "comprises" should be "further" and "comprise", respectively.

In claim 30, lines 2 and 3, "wherein noise data" and "wherein loop data" should be "wherein the noise data" and "wherein the loop data", respectively.

In claim 31, line 3, "a first modem" should be "the first modem.

In claim 33, line 3, "a first modem and a" should be "the first modem and the".

In claim 40, line 1, "claim 37, further comprising the steps of" should be "claim 39, further comprising".

In claim 45, line 2, "a transmitted power for a" should be "the transmitted power for the".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 5-12, 16, 22, 28-35, 39, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, line 1, the phrase “the steps” lacks antecedent basis since claim 1 recites three different steps; in other words, the Applicants are requested to specify exactly what are the steps for performing the claimed subject matter prior to a step of modem training.

In claim 6, line 1, the phrase “the steps” lacks antecedent basis since claim 1 recites at least first and second line condition data and line condition data recited in the preamble. Also see line 1 of both claims 7 and 30.

In claim 6 (lines 5-6 and 8) and claim 29 (lines 5 and 7), the phrases “the local modem” and “the remote modem” both lack antecedent basis.

In line 3 of both claims 16 and 39, Applicants are requested to clarify what is meant by “for optimizing reach performance”?

Claim 28 is vague and indefinite since claim 24 does not include the claimed subject matter of modem training.

Wherein claims 8-12, 22, 31-35, and 45 are depended upon claims 7 and 30.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-6, 13-21, 24-29, and 36-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Lomp.

Lomp (U.S. Patent No. 6,456,608 B1) discloses a system and method for providing a high capacity, CDMA communications system which provides for one or more simultaneous user bearer channels over a given radio frequency, allowing dynamic allocation of bearer channel rate while rejecting multipath interference.

With respect to claims 1-3, 14-15, 18-19, 24-26, 37-38, and 41-42, Lomp teaches that a system includes a bearer channel modification system which comprises a group of message channels between a first transceiver (modem) and second transceiver (modem). Each of the group of message channels supports a different information signal transmission rate. The first transceiver monitors a received information signal to determine the type of information signal that received, and produces a coding signal relating to the coding signal. If a certain type of information signal is present, the first transceiver switches transmission from a first message channel to a second message channel to support the different transmission rate. The coding signal is transmitted by the first transceiver to the second transceiver, and the second transceiver switches the second message channel to receive the information signal at a different transmission rate. See column 6, line 62 to column 7, line 10. Lomp also teaches shaping a transmit spectrum for the transceivers differently or substantially the same, for example, by FIR

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filters. See column 13, lines 60-67; column 43, lines 38-46; column 46, lines 10-22; column 55, line 66 to column 56, line 13; and column 98, lines 55-69.

With respect to claims 4, 6, 13, 16-17, 21, 27, 29, 36, 39-40, and 44, Lomp also teaches the determination of signal power, noise power, increasing transmit power, and power of signal to noise ratio. See column 7, lines 47-53; column 63, lines 49-63; column 64, lines 35-56; and column 65, lines 66 to column 66, line 9.

With respect to claims 5, 20, 28, and 43, it is well known to a person skill in the art that modem training is performed after communications is ready between two modems. It is also well known to a person skill in the art that line condition data from a modem is derived from cross talk, such as, from far-end and near-end modems.

### ***Allowable Subject Matter***

8. Claims 7-12, 22, 30-35, and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 23 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

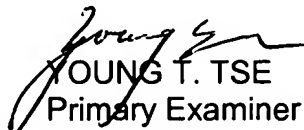


References Betts et al., Bremer et al., Richards et al., Tate et al., Davids et al., and Ginis et al. are made of record as describing a related method and apparatus for estimating the channel capacity of a communication channel between a first modem and a second modem.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
YOUNG T. TSE  
Primary Examiner  
Art Unit 2637